



A.D. 1858, *9th MARCH.* N° 477.

S P E C I F I C A T I O N

OF

GEORGE FELLOWS HARRINGTON.

MANUFACTURE OF ARTIFICIAL TEETH,
BEDS, AND PALATES.

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A.D. 1858, 9th MARCH. N° 477.

Manufacture of Artificial Teeth, Beds, and Palates.

LETTERS PATENT to George Fellows Harrington, of Ednam House, Ryde, Isle of Wight,, for the Invention of “**IMPROVEMENTS IN THE MANUFACTURE OF ARTIFICIAL TEETH, AND IN THE BEDS AND PALATES FOR TEETH.**”

Sealed the 20th August 1858, and dated the 9th March 1858.

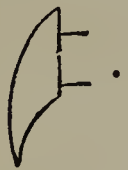
PROVISIONAL SPECIFICATION left by the said George Fellows Harrington at the Office of the Commissioners of Patents, with his Petition, on the 9th March 1858.

I, GEORGE FELLOWS HARRINGTON, of Ednam House, Ryde, Isle of Wight,
5 do hereby declare the nature of the Invention for “**IMPROVEMENTS IN THE MANUFACTURE OF ARTIFICIAL TEETH, AND IN THE BEDS AND PALATES FOR TEETH,**” to be as follows :—


This Invention has for its object improvements in the manufacture of artificial teeth, and in the beds and palates for teeth. The mineral teeth
10 hitherto used have either been what are called “tube teeth” or “flat teeth;” tube teeth are fastened by means of pins or pivots soldered to the bed or palate, passing through the tubes in the teeth and secured by means of cement or silk; flat teeth have been made with two or more pins or bits of metal, generally platina, inserted in them while the teeth are being made, which
15 bits of metal are soldered or rivetted, or both, to a pin or plate, and then

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soldered to the bed or palate, as the case may be; and such teeth mainly depend for their security on the strength of the bits of metal, except such stay as the base of the tooth may receive from resting on the gum or the plate which fits the gum; taking a side view of such teeth, they appear

thus, .

5

The teeth I use are flat teeth, but they differ from those heretofore in use, inasmuch as, instead of the mineral forming the base of the back of the tooth being formed in the shape of a part of a circle down to the outer edge of the tooth, it is formed with an angular notch, thus,  which notch fitting

into a metal base prevents its slipping off, and takes the whole of the 10 force exerted on the point of the tooth towards its base, by which means it is only necessary to have one metal pin made in the tooth, and the metal pin when rivetted to the palate or bed as only to resist such pressure as may tend to force the tooth from the palate or bed in a line at right angles with the base thereof. 15

The next part of my Invention consists of an improved mode of forming moulds for casting the beds and palates for artificial teeth in aluminum or any other suitable metal. For this purpose I take a mould of the mouth or part thereof in the usual way; I obtain a model therefrom in plaster of Paris, mixed with sand and water; then I adjust mineral teeth to such model, and 20 form a beeswax pattern for the metal bed or palate on it, attach the mineral teeth to it in their proper place, and finish it as near as possible to the form and thickness required. I then attach cones of wax to the bed or palate, so as to form patterns for holes to pour the melted metal in, and also for the escape of the air. I remove the teeth from the wax pattern, and place the model 25 with the wax pattern attached, in an iron box open at the top so that the large parts of the wax cones may be uppermost; I then pour plaster of Paris mixed with sand and water into the iron box, so as to embed the whole of the model and wax pattern except the base of the wax cones. After the plaster becomes set I heat the whole sufficiently hot to melt and burn out the wax, 30 and while hot I pour the melted metal into the cavity produced by burning out the wax. When cold I remove the plaster and take therefrom a palate or bed of metal ready to receive the teeth without further alteration, and be finished off, when it is ready for use.

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SPECIFICATION in pursuance of the conditions of the Letters Patent, filed by the said George Fellows Harrington in the Great Seal Patent Office on the 2nd September 1858.


TO ALL TO WHOM THESE PRESENTS SHALL COME, I, GEORGE
5 **FELLOWS HARRINGTON**, of Ednam House, Ryde, Isle of Wight, send greeting.

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Ninth day of March, in the year of our Lord One thousand eight hundred and fifty-eight, in the twenty-first year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said
10 George Fellows Harrington, Her special licence that I, the said George Fellows Harrington, my executors, administrators, and assigns, or such others as I, the said George Fellows Harrington, my executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all times thereafter during the term therein expressed, should and lawfully
15 might make, use, exercise, and vend, within the United Kingdom of Great Britain and Ireland, the Channel Islands, and Isle of Man, an Invention for "IMPROVEMENTS IN THE MANUFACTURE OF ARTIFICIAL TEETH, AND IN THE BEDS AND PALATES FOR TEETH," upon the condition (amongst others) that I, the said George Fellows Harrington, my executors or administrators, by an
20 instrument in writing under my, or their, or one of their hands and seals, should particularly describe and ascertain the nature of the said Invention, and in what manner the same was to be performed, and cause the same to be filed in the Great Seal Patent Office within six calendar months next and immediately after the date of the said Letters Patent.


25 **NOW KNOW YE**, that I, the said George Fellows Harrington, do hereby declare the nature of the said Invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement thereof, that is to say:—

This Invention has for its object improvements in the manufacture of
30 artificial teeth, and in the beds and palates for teeth. The mineral teeth hitherto used have been either what are called "tube teeth" or "flat teeth." Tube teeth are fastened by means of pins or pivots, soldered to the bed or palate, passing through the tubes in the teeth and secured by means of cement or silk. Flat teeth have been made with two or more pins or bits of metal,
35 generally platina, inserted in them while the teeth are being made, which bits of metal are soldered or rivetted, or both, to a pin or plate, and then soldered

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to the bed or palate, as the case may be, and such teeth mainly depend for their security on the strength of the bits of metal, except such stay as the base of the tooth may receive from resting on the gum, or the plate which fits the gum; taking a side view of such teeth they appear thus, 

The teeth I use are flat teeth, but they differ from those heretofore in use, inasmuch as, instead of the mineral forming the base of the back of the tooth being formed in the shape of a part of a circle down to the outer edge

of the tooth, it is formed with an angular notch, thus,  which notch, fitting

into a metal base, prevents its slipping off, and takes the whole of the force exerted on the point of the tooth towards its base, by which means it is only necessary to have one metal pin or blade made in the tooth; and the metal pin or blade when rivetted to the palate or bed has only to resist such outward pressure as may tend to force the tooth from the palate or bed. 10

The next part of my Invention consists of an improved mode of forming moulds for casting the beds and palates for artificial teeth in any suitable metal, and also in casting the beds and palates for artificial teeth in cast aluminium. For the purpose of forming the moulds I take a mould of the mouth or part thereof in the usual way; I obtain a model therefrom in plaster of Paris mixed with sand and water; then I adjust mineral teeth to such model, and form a beeswax pattern for the metal bed or palate on it, attach the mineral teeth to it in their proper place, and finish it as near as possible to the form and thickness required; I then attach cones of wax to the bed or palate, so as to form patterns for holes to pour the melted metal in, and also for the escape of the air. I remove the teeth from the wax pattern, and place the model with the wax pattern attached in an iron box, open at the top, so that the large parts of the wax cones may be uppermost; I then pour plaster of Paris mixed with sand and water (or other suitable mixture which will set hard and bear heating sufficiently to burn out the wax pattern) into the iron box so as to embed the whole of the model and wax pattern except the base of the wax cones. After the plaster becomes set I heat the whole sufficiently hot to melt and burn out the wax, and while hot I pour the melted metal into the cavity produced by burning out the wax. And in order to shake the melted metal into every part of the mould, the mould is kept agitated while the melted metal is being poured in by continually hammering the iron box 25 30

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in which the mould is formed until the metal comes upon a level in both cones. When cold I remove the plaster, and take therefrom a palate or bed of metal ready to receive the teeth and be finished off, when it is ready for use.

5 Having thus described the nature of my said Invention, and the manner of performing the same, I would have it understood that what I claim is,—

Firstly, the making artificial flat mineral teeth with one metal pin or blade, and forming the base of such artificial teeth as herein described.

Secondly, the making the beds or palates for artificial teeth of cast
10 aluminium.

And, thirdly, the improved mode of forming moulds for casting the beds and palates for artificial teeth, as herein explained.

In witness whereof, I, the said George Fellows Harrington, have here-
unto set my hand and seal, this First day of September, in the year
15 of our Lord One thousand eight hundred and fifty-eight.

G. F. HARRINGTON. (L.S.)

Witness,

HENRY CASTELL,

110, High Street, Portsmouth.

LONDON :

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Printers to the Queen's most Excellent Majesty. 1858.

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